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These two photos downloaded from the Digital Visual Library show the variety of shots available. At left, combat engineers drill for blasting in Europe during World War II. At right, a young visitor gets a drink of water at a campsite at Chena Lake in Alaska District. (Left photo courtesy of Office of History; right photo by Bob Heims, Alaska District)

Photo library now on Internet

By Bernard W. Tate
Headquarters

Imagine a giant photo library, big enough to visually document every major event, project, and person in the history of the U.S. Army Corps of Engineers.

Boggle the mind? It shouldn't. It's only a few keystrokes away, right now.

The Digital Visual Library (DVL) is up and running, well on it's way to becoming a one-stop shopping site for photos of the Corps in action. And it's free, open to any person in the U.S. who might need a Corps-related photo for any purpose.

It was a case of necessity being the mother of invention.

"We used to have an individual at headquarters responsible for collecting slides from the field and archiving them in big storage racks," said Chuck Gregory, Publishing and Printing Program Manager. "That individual took a job elsewhere, then the position was abolished. So for several years all archival activities were suspended.

But there was still a need for a central slide archive and after much informal discussion the Directorate of Information Management (IM) decided to create one on the Internet. In 1996 Gregory called Corps locations that maintain good slide archives and asked for a volunteer to create a pilot DVL project funded by IM. Steve Smith, Chief of Visual Information at Portland District, took the challenge and developed an Internet-capable slide library.

A task force of representatives from IM, the Office of History, and the Public Affairs Office met at headquarters in 1996 to develop the DVL. The task force has been hammering out details since then, and the DVL officially went on-line last fall. It currently carries more than 700 images.

"The electronic format lets us store a lot more, cheaper, and find and retrieve it more easily, than any hard-copy storage system," said George Halford, the PAO Command Information Branch Chief, who also wrote the Corps' regulation governing the DVL. The reg is in the final stages of review and approval.

"Our initial request asks for four images of every major project from each division, district, lab, and center in the Corps, plus we were looking for the best they had in general areas -- recreation, history, flood-fighting, environmental cleanup, and so on," said Halford.

Although the DVL resides on the web servers at Portland District, and their visual information specialists maintain it, **anyone** can access the images at the address *http://images.usace.army.mil* on the Internet. The site is user-friendly and can do simple word searches such as "recreation," or more complex menu-driven searches by division, district, state, mission, and so on.

Information accompanying each photo thoroughly identifies its subject, location, who took the shot, and any other necessary data.

The images can be downloaded in three different resolutions. Two are high resolution -- 3x5 inches, 300 dots per inch (dpi) in either .tif or .jpg formats. The medium resolution is 7x10 inches at 72 dpi in .jpg format. The high resolution photos are suitable for newspapers and four-color publications; the medium resolution is best for websites, electronic publications, and computer slide presentations projected onto a large screen.

"All photos are available free, and all are in the public domain," said Smith. "All of the shots have been checked by the PAO for releasability, and all have been checked for safety violations. At present, all we have are photos, but we're planning to expand in the future to include slide presentations, video clips, and graphic files such as maps."

There is a standing call for photos for the DVL. "Even though it has only a few hundred shots now, we're hoping to soon have thousands," said Halford.

"We're looking for photos that show major Corps projects or events in the best possible light," said Smith. "What you would release to the news media or general public."

"To get the quality we want, we're asking the field for first or second generation slides," said Halford. "When the reg comes out, there will be a form in it which details the kind of information we need for the database.

"And we're not asking the field for something for nothing," said Halford. "They'll get something in return. First, we know that we'll get better images if we commit to returning the originals to the sender. Second, we will also send them a compact disk of all their submitted photos suitable for any publication or presentation."

To submit photos and caption forms, mail them to:

Visual Information Branch
Portland District
U.S. Army Corps of Engineers
333 Southwest First Ave.
Portland, Ore. 97204-3495

Anyone with questions can call Smith at (503) 808-5120.

"Submitting digital photos is OK, but most consumer cameras, those costing a few hundred dollars, don't have high enough resolution," said Smith. "At least 150 dpi is our minimum, and that would only be useable for an in-house publication, website, or Powerpoint presentation. If you have a digital image you want to send, call us. We'll let you know if we can use it, and how to get it to us."

Everyone involved has high hopes for the DVL.

"We're hoping the DVL will save a lot of time for everybody,' said Smith. "Instead of people having to call the Corps for images, and wait while we hunt them up and mail them out, they can find them instantly. And it saves us time with the researching, locating, reproducing, and mailing, too."

"I think the DVL is going to be very good for the Corps," said Halford. "It gives us a service we've needed for a long time, a service to obtain high-quality photos instantly for a wide variety of uses -- publications, speeches, websites. We'll have the images we need to tell the Corps story."

Chem labs join forces, expand

By Jennifer King
Waterways Experiment Station

Big changes are taking place as chemical laboratories in the U.S. Army Corps of Engineers reorganize and consolidate to streamline operations.

The most visible change is the Environmental Chemistry Center's new research center currently being built at the Waterways Experiment Station (WES), in Vicksburg, Miss.

This state-of-the-art center will serve the entire Corps. Complemented by the recent consolidation with the Division Laboratory in Omaha, Neb., it will provide the best in environmental chemistry research, quality assurance, and chemical testing.

WES recently assumed responsibility for chemistry quality assurance testing and inspection for the Corps. As a result, 61 members of the new Chemistry Quality Assurance Branch (CQAB) in Omaha joined the WES family. While they will remain in Omaha, they will be supervised by the WES Environmental Laboratory.

The CQAB provides quality assurance testing and inspections for contract and commercial chemistry labs working for the Corps and other federal agencies. The WES Environmental Chemistry Branch conducts research to determine the effectiveness of methods used by researchers, contractors and others, and to develop better methods for chemical analysis. It also provides specialty analysis.

"The services provided by the new Chemistry Quality Assurance Branch in Omaha will complement those offered by the Environmental Chemistry Branch," said Norman Francingues, Chief of the WES Environmental Engineering Division. "We're delighted to have the staff of the new branch join WES. Combining the environmental chemistry functions at WES will strengthen the Corps' capability and expertise, and strengthen the position of the Corps as the world leader in environmental chemistry."

"We've always worked with WES, and the arrangement sounded like it would benefit us," said Omaha-based Douglas Taggart, CQAB Chief.

The new 22,000-square-foot facility at WES will bring advanced equipment together with some of the most experienced researchers. Equipment in the new facility will include the High Resolution Gas Chromatograph/High Resolution Mass Spectrometer and the Inductively Coupled Plasma/Mass Spectrometer that will allow researchers to measure contaminants at extremely low concentrations. For example, the equipment can analyze samples to establish contaminant types and concentrations throughout a chemical cleanup. This technology is available in only a handful of labs in the U.S.

The new Environmental Chemistry Branch building is currently under construction at the Waterways Experiment Station. (Photo courtesy of WES)

"With our new facilities, unsurpassed instrumentation, and experienced personnel, we can address the widely diverse environmental chemistry concerns of the Corps, whether they involve remediation, sediment management, water quality, risk assessment or other mission-related projects," said Ann Strong, Chief of the WES Environmental Chemistry Branch.

The CQAB also provides unique services. For example, contaminant samples taken from a cleanup site by Corps contractors are split between the contractor and CQAB for testing. The CQAB runs analysis on samples to ensure that results obtained by the contractor meet contract specifications. They also provide quality assurance/quality control consultation to districts and other agencies they service.

"I think we'll provide one point for environmental testing for all the Corps' needs," Taggart said. "We're already working closely and will provide good services in one lab, even if the lab is in two locations."

The CQAB will work closely with the Materials Testing Center (MTC) at WES. Together, they will provide a total capability for quality assurance testing and commercial laboratory inspections. These labs work in a variety of fields, including planning and executing testing programs, investigations, and studies involving civil and military applications.

For example, the laboratories may work in concrete and materials engineering, soil and rock mechanics, airfields, pavements, structural engineering, wetlands and environmental engineering, water quality investigations, dredging, contaminated sediment management, and environmental restoration. The work is done for the Corps and other federal and state agencies.

In 1997, Lt. Gen. Joe N. Ballard, Chief of Engineers, specified that the MTC would be the lead Corps facility in materials testing and inspection and validation of all contractor, commercial, and Corps offices that provide contractor quality control and government quality assurance services. The MTC has comprehensive testing capabilities for all conventional and specialized tests on soil, rock, stone, concrete, asphalt, aggregate, and other materials.

While building the new environmental chemistry center facility at WES is more visible, significant improvements have been made to the MTC. New automated equipment has reduced costs, and the laboratory space has been remodeled.

"The working conditions are excellent and now allow us to work more efficiently to meet customer needs," said Judy Hudnall, soil testing technician.

"The MTC now has the primary responsibility for quality assurance and quality control construction laboratory inspections," said Dave Bennet, MTC Director. "However, as we make the transition this fiscal year, we'll continue to need regional resources. We appreciate the continued assistance from trained inspectors in the divisions and districts as needed."

'We never go anywhere without buckling up!'

I have a question about the article titled "Two districts show the meaning of 'Corps family'" on page 10 of the April *Engineer Update.*

Were Mark Keast of Kansas City District and his children wearing seatbelts at the time of the accident? I read the article twice and did not see any reference to their use. Seatbelts save lives and in many states their use is a matter of law.

Fortunately, no one in Mr. Keast's family was killed. If they were wearing seatbelts, you missed a good opportunity to stress the use of a life-saving device and giving safety a shot in the arm. I hope, for Mr. Keast and his children's sake, that was the situation.

Jim Klein
Mississippi Valley Division

I called Mark Keast and asked him about the accident. He said, "Yes, we ***were*** *all wearing seatbelts that day, and we had airbags, too." The airbags also activated during the head-on collision, but "their deployment was so brief that I don't remember anything about them."*

Despite the seatbelts and airbags, Keast and his children were still badly injured. "We were driving a subcompact foreign car and the other driver was in a pick-up truck, so the laws of physics say we would get the worst end of the deal."

But not the worst possible end. I asked Keast how he feels about seatbelts in light of his injuries. "As I understand it, the other driver was ***not*** *wearing a seatbelt, and he died," Keast said.*

And does the Keast family still use seatbelts? "We never go anywhere without buckling up," Keast assured me. "Not even 200 feet!" ***Editor***

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Chief, Command Information.....George E. Halford
Editor.....Bernard W. Tate

Y2K myths debunked

Many people misunderstand the Year 2000 (Y2K) problem. In his "Year 2000 Compliance Study," Tahir Rizvi, program manager for the Operations Maintenance Engineering Enhancement Program, debunks 10 Y2K myths that can lull managers into a false sense of security.

Myth: Only computers are affected.
Truth: The Y2K problem affects any equipment or system that implements commands based on date and time. Examples are fire/life safety controls, elevators, security systems, chillers and boilers.

Myth: We do not have to test equipment if the vendor says it complies.
Truth: The end user is responsible for compliance. You must test all system components, which may be supplied by different manufacturers, yet must to work in an integrated system.

Myth: If we test components individually, we do not have to test the system.
Truth: Components may meet the specifications, but problems occur when they are integrated. Compliance requires a total system test.

Myth: We can test the system ourselves by changing the date.
Truth: Check with vendors first. Some century dates can not be reset to 19 once they have been set to 20 without changing the hardware.

Myth: We have until Dec. 31, 1999 to complete the Y2K work.
Truth: Problems may occur as early as Sept. 9, 1999,since programmers sometimes store error codes in locations like 9/9/99. A system programmed this way may see that date as an error and shut down. Department of the Army requires that all systems be in compliance by Dec. 30, 1998.

Myth: It will be all over on Jan. 1, 2000.
Truth: Later pitfalls could be just as troubling. The day of the week could be wrong, causing problems with heating, air conditioning, or elevators. More problems crop up during the 2004 leap year, and when the clock changes to daylight savings time.

Myth: If we check the equipment on one floor, we don't need to check similar floors.
Truth: It's risky to assume that the equipment is identical or operates in an identically configured system. Check it out to be sure.

Myth: All new projects will comply.
Truth: You must ensure that specific requirements for compliance are written into all new contracts. All new equipment must be factory tested and certified to be Y2K compliant.

Myth: The vendor's service agreement covers Y2K compliance.
Truth: Do not expect that a service agreement covers Y2K compliance. Closely check every agreement. Construction contracts should include "testing" clauses for vendor equipment.

Myth: Vendors are liable for failures.
Truth: A vendor will not assume responsibility if the service agreement did not outline compliance requirements.

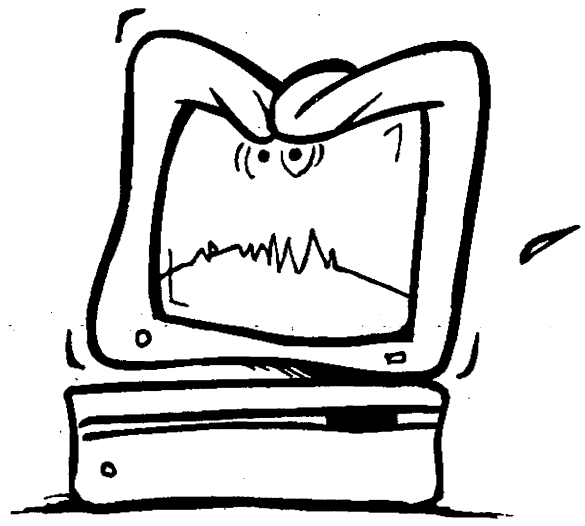
How to face the Y2K problem

By Linda James
Huntsville Center

When the date rolls over to Jan. 1, 2000, most federal agencies believe they will have done everything possible to avoid the computer "disasters" predicted by many. But, according to Tahir Rizvi of the U.S. Army Engineering and Support Center, Huntsville, managers may have overlooked a critical element of what the popular media calls the "Y2K Problem."

Computer programmers in the 1970s never expected their systems to still be operating in 2000. When the calendar changes to Jan. 1, 2000, computer chips all over the world will read that date as 010100, or Jan. 1, *1900.* When that happens, uncorrected computer systems that run everything from traffic lights to hospital systems will have glitches.

"Most of the information available to address Y2K has focused on the obvious computers and communications systems," said Rizvi. "But it has overlooked facilities equipment and related systems, which often have computers embedded in their operations. This equipment makes up the life-support systems for buildings and entire installations. If these systems fail, it could have a profound impact on life and safety."



Rizvi is Huntsville Center's program manager for Operations and Maintenance Engineering Enhancement (OMEE). OMEE is the Department of Defense program for centrally managing operations maintenance support for facilities worldwide. Huntsville Engineering and Support Center is the Technical Center of Expertise for the program, and supports all services -- Army, Navy and Air Force.

According to Rizvi, the Y2K problem affects facilities systems because they often implement commands based on date and time. He shies away from using words like "disaster" but, instead, cautions facilities managers not to underestimate the scope of the problem, nor to fall prey to some of the Y2K myths. *(See sidebar article.)*

Examples of facility systems that may be affected by the Y2K issue include fire/life safety controls, emergency power systems, chillers, boilers, HVAC (heating, ventilation and air conditioning systems), elevators, security systems, and electrical demand and load shedding systems.

"Every facility or building is different," said Rizvi. "For instance, what would compromise safety at a hospital might only be an inconvenience at another building."

These systems often have computers regulating their operation for peak usage times or for maintenance schedules. For example, an elevator could be stuck on the first floor, or the HVAC in a hospital's intensive care unit could shut down, because their embedded microprocessors suddenly "think" the systems haven't been serviced for 99 years.

The impact may be as trivial as inaccurate reports, or as substantial as the complete failure of one or more critical systems. The differences in the facilities functions and the wide range of facilities equipment and systems makes the problem all the more difficult to tackle, but not impossible. Rizvi and his team of operations maintenance experts were undaunted by the sheer scope of the problem. As Rizvi described it, "It is war and our objective is to develop a battle plan for defeating the enemy."

The result is an approach to the Y2K problem that directly addresses the impact to facilities equipment in six steps. Here is a summary of the process that is outlined in Rizvi's recently-published "Year 2000 Compliance Study."

Step 1 – Survey. Conduct a survey of all facility systems and equipment that use computers or embedded microprocessors. This would include reviewing everything from equipment inventory to preventive maintenance lists and vendor service contracts.

Step 2 – Identification. Identify potential building systems or equipment compliance issues. In this step, equipment vendors should be asked for compliance documentation and testing procedures. Rizvi suggests all equipment and systems be tested for compliance with Y2K, to make sure they will function properly after Jan. 1, 2000. If the system tests comply, then no further action is necessary. Otherwise, move on to step 3.

Step 3 – Investigate/Develop Strategy. Investigate the issues identified through reviews with site personnel and equipment vendors; identify potential impact; develop a strategy for modification or replacement; and develop a cost estimate.

Step 4 – Funding. Determine funding strategy.

Step 5 -- Implementation. Buy any hardware or software necessary and install.

Step 6 – Validation. Retest building systems and equipment to make sure they will not develop glitches on Jan. 1, 2000.

While the six steps sound deceptively simple, Rizvi said they provide only a framework for action that requires a great deal of coordination and analysis. And, he added, a certain degree of expertise. That's where the OMEE experts at Huntsville Center can help.

"As the Center of Expertise for Operations Maintenance, we can act as a consultant, if you will, to help facility managers move ahead on this issue," said Rizvi. And move ahead they must because the clock is ticking. "We are in a time crunch now with some of the critical dates approaching in 1999," Rizvi said. Initially, the Y2K problem was expected to be only a two-digit recognition problem that would occur solely on Jan. 1, 2000. Now, a series of dates have been identified that could cause problems before and after the Jan. 1, 2000. The earliest date is Sept. 9, 1999, because some programmers stored error codes in easy-to-remember locations such as 9/9/99. To ensure that your system won't be brought to a halt, the Department of the Army requires that all systems be in compliance by Dec. 30, 1998.

That's just one of the Y2K myths that Rizvi debunks in the "Year 2000 Compliance Study." Besides debunking those myths, Rizvi and his team can help facilities managers through each step of the survey process and implementation.

"We can help as little or as much as needed," he said. For those who want to read more about the six-step process, the "Year 2000 Compliance Study" outlining the process in detail is available at www.hnd.usace.army.mil/omee/y2k.htm on the Worldwide Web. Or call Rizvi at (256) 895-1532.

In addition, on April 20 Lt. Gen. Joe N. Ballard, Chief of Engineers, appointed Col. Donald Whitten, Chief Information Officer, as the Corps' Program Manager for Y2K compliance. More information about the Corps' Y2K program is available at http://www.usace.army.mil/im/ceimp/y2k.html.

Quality of life

Living conditions improved for Army, USAF in Europe

By Torrie McAllister and Marnah Woken
Europe District

Europe District recently completed four projects in Europe for the Army and Air Force which will all improve the quality of life for servicemembers and their families stationed there.

Entertainment center

On March 6, Air Force families at Incerlik Air Force Base in Turkey celebrated the opening of the Magic Carpet Bowling Center and Family Center, and an American Youth Activities Center, both costing $2 million. Located near the swimming pool, mini-golf, and base theater, they are the centerpiece of a recreation hub for the American community.

The Magic Carpet Bowling and Family Center is the first of its kind for non-appropriated funds. What began as a bowling center was redesigned into a family entertainment center that features 10 bowling lanes, a TV sports bar with disco, a family snack bar, and an indoor playland for children.

On the lanes, bowlers can observe themselves on video to improve their technique, or tune into the closed-circuit TV to watch their children in the playroom. Older children can play more than a dozen video games. Lane-side food service allows teams to order food electronically and receive a message when their order is ready for pickup.

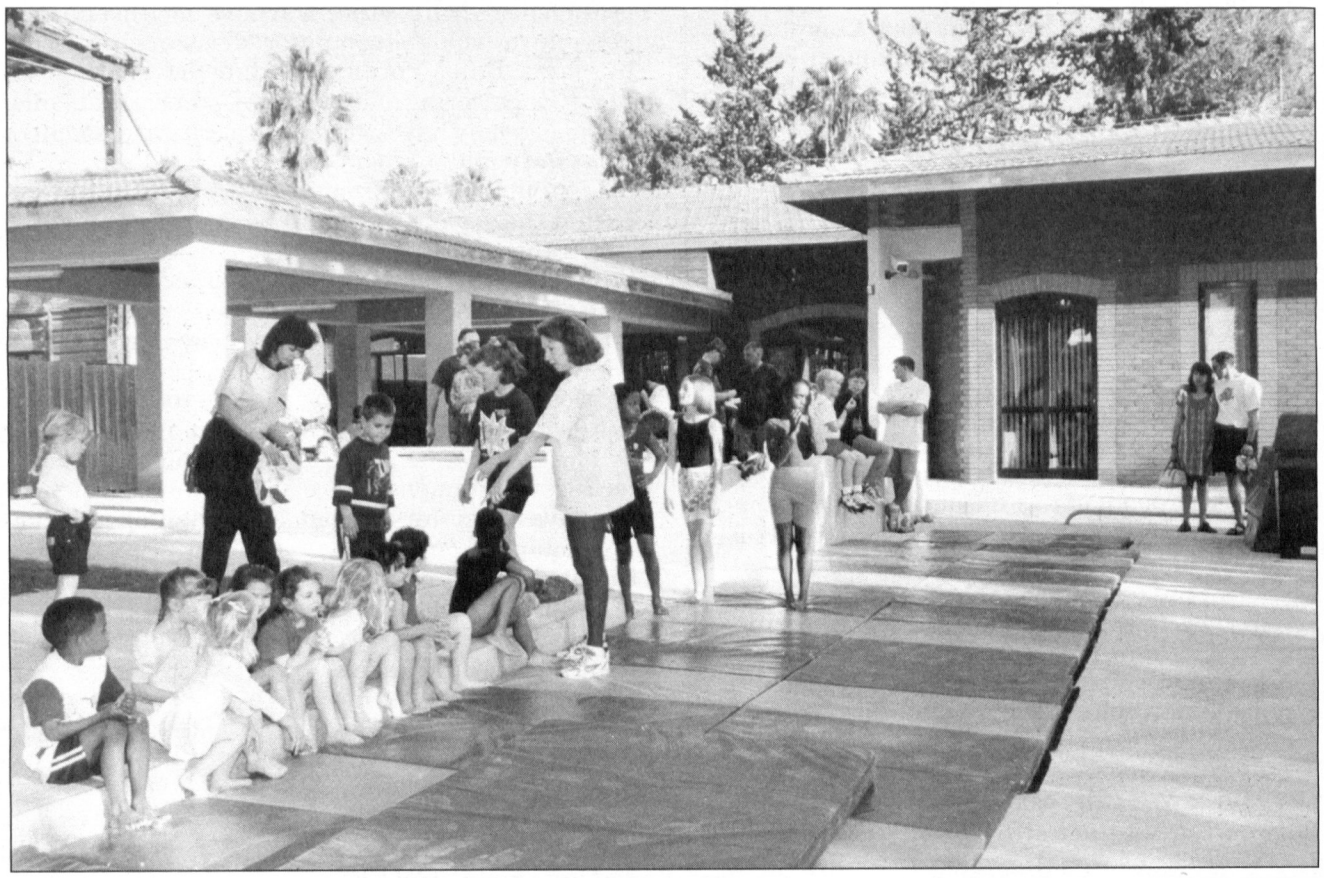
"We really wanted this to be a family place," said P.J. Beaulieu, the Family Center manager. "People like bowling, but young families find it hard to come if there's nothing for the children. Now they can say 'go crazy in the playroom' while the adults have fun."

Europe District architect, the late Semih Akyol, and the Turkish architect-engineer Altan-Tuncer, designed both facilities.

The American Youth Activities Center is also state-of-the art, and replaces a facility built more than 30 years ago. It is twice the size of the old center and offers twice as many activities.

Special areas were designed for the teen center, a school-age after school program, structured recreation and social activities, plus programs for the Boys and Girls Club of America. The gym floor doubles as a skating rink and there are separate rooms to accommodate the special needs of music, computers, arts and crafts, dance, gymnastics, and martial arts. New playgrounds are being added this summer.

Corps project engineer Daniel Brueggenjohann led Europe District and the TUSEG area office, working with the Turkish construction firm Kuliak, to complete both projects on time and within budget. Oryal Aktasli was the Corps' project manager.



Children at Incerlik Air Force Base in Turkey enjoy a gymnastics class in the new American Youth Activities Center. (Photo courtesy of Europe District)

Inprocessing center

Soldiers and their families arriving in Germany now enjoy a modern, comfortable inprocessing center at the 64th Replacement Company. Located in Building 368 on Rhein-Main Air Base, the facility is the first stop for active-duty Army personnel, and one of their first impressions of Europe.

"The majority of Army personnel that come through Europe inprocess at this building," said Maj. Judith Boyd, commander of the 64th. "They get off a plane and come directly here, either from the AMC terminal across the street or from the Flughafen (airport), so this is their first look at Europe."

The renovated center became fully operational after its opening in April. On an average day, it processes 100-to-150 soldiers. After a four-day holiday weekend, that can grow to 500.

"Almost everyone is here for a couple of hours depending on what time their flight arrives," said Boyd. "Everyone who comes in here has been on a plane all night, so they're usually tired. Now they have a nice place to relax. There's a waiting area, a place to get snacks, and a nursery for children. The renovations have really made a big improvement."

Renovations include installing new carpeting and floor tiles, replacing lights, ceilings, fans and radiators, interior painting, and windows. The bathrooms were renovated and handicapped facilities installed. The front entrance doors were also replaced and fire routes upgraded. The nursery and snack area were also upgraded and refurbished. A game room was added and a second floor wall was removed creating an area for Operation Joint Guard processing.

"The renovations really improve everyone's first impression, especially those who have never been here before," Boyd said. "Before the renovation, the building was really run down. It was old and dirty, the furniture was old, and the bathrooms were pretty bad. I was here in 1983 and when I came through again it was still the same old building. I think this is the only renovation that's been done."

An automated processing system will also be implemented to simplify and speed inprocessing. "We've had the automated system planned for awhile, but we were waiting for the building to be renovated," Boyd said. "With the old system, soldiers would fill out an information card and we would collect them. With this new automated system we'll have 20 computer terminals where soldiers can type in their social security number and put all of the information directly into the computer. It's going to make inprocessing much quicker."

Mansur Cheema, Europe District project engineer and Al Opstal, the district's project manager, worked with the contractor Bauwens on the renovations.

"When we started this project there wasn't enough funding for the renovations," said Opstal. "When the fire safety and handicapped requirements were added, we were short of funds and the project stopped. It took a lot of effort to get additional funds and complete the design. When the bids came in low we had remaining funds. This enabled us to provide more than was requested, such as replacing the roof over the renovated portion."

As project manager, Opstal accepted the requests for services and managed the design phase. He was also involved in all changes and additions in the construction phase.

New dorms

The first of four new dormitories on Spangdahlem Air Base in Germany is near completion, and will offer a better quality of life for Air Force personnel. Under the Department of Defense 1+1 guidelines, each dormitory will have 48 double-occupancy units designed to offer more privacy for single airmen.

"The dormitory that's almost completed is the first 1+1 in U.S. Air Force Europe (USAFE)," said Capt. David Caffee, U.S./NATO program manager for the project. "After we started, some existing dorms have been renovated to the 1+1 configuration, but this is the first 1+1 facility built from the ground up."

The interior of each 39-square-meter apartment has two living/sleeping rooms, a kitchen, a shared bathroom with shower, two private grooming areas with a sink, and two large closets.

The new dormitory plan for the air base originally began due to the location of existing dorms. "The old dorms are next to the aircraft shelters," Caffee said. "Not only do you have the noise from the aircraft, but in wartime the buildings would have to be vacated. So we needed to come up with a better location."

Although the interior design of the four dorms remains the same, the exterior differs slightly on the three dorms yet to be built. Two will begin this May.

Continued on page 5

Norfolk area gets new port plan

By Amy Goebelbecker
Norfolk District

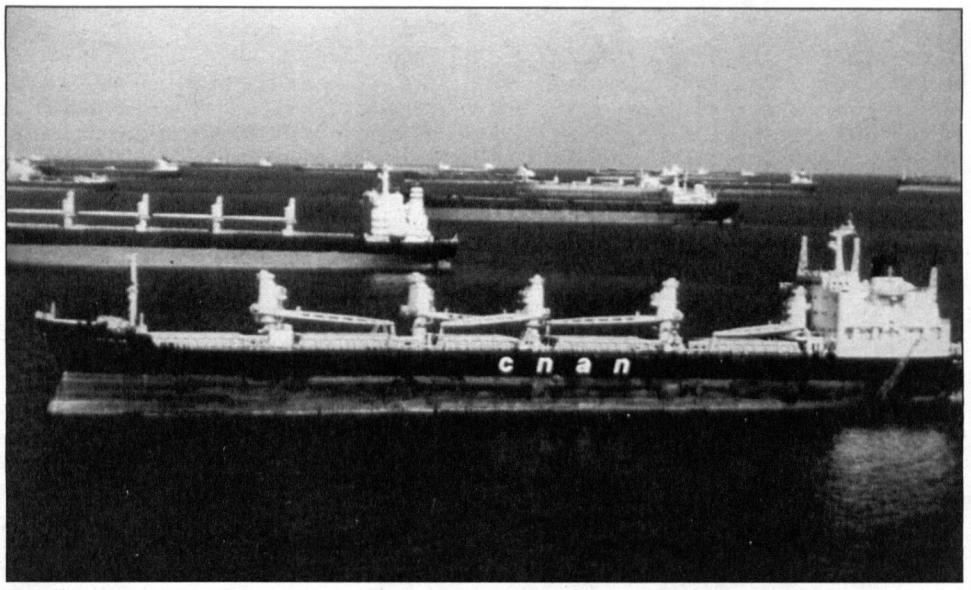
Norfolk District is developing a plan that could significantly help port development across the U.S. The first of its kind, the Navigation Management Plan for the Port of Hampton Roads will incorporate all navigation-related activities in the port, including commercial, military and recreational boating.

Located in southeastern Virginia at the southern end of the Chesapeake Bay, the Port of Hampton Roads is recognized as one of the largest and finest natural harbors in the world and is a primary stimulus to the economic well-being of the region, the state and the nation.

But Hampton Roads is also one of the busiest ports in the U.S. The land surrounding the harbor covers about 1,500 square miles and includes the cities of Chesapeake, Hampton, Newport News, Norfolk, Portsmouth, Suffolk, and Virginia Beach, as well as Isle of Wight County. The area has a population of more than 1.3 million.

The harbor is the center of substantial industrial, commercial, and military activity for the region. It is the largest exporter of coal in the world and contains one of the largest concentrations of Navy installations in the country. In 1995, more than 75 million tons of commerce moved through the port. Vessels of every size, from aircraft carriers to pleasure craft, transit the port.

The challenge is to strike a balance between all those users.



The Port of Hampton Roads is the largest coal exporter in the world. These ore ships jamming the port illustrate why a comprehensive port development plan is needed. (Photo courtesy of Norfolk District)

According to Thomas Lochen, a planner and project manager for the study, the purpose of the plan is to provide for the most efficient operation and maintenance of the port and to accommodate development and growth.

A team from the district's Planning Division is conducting interviews and workshops with about 400 federal, state, municipal and private port users. Besides Lochen, the team includes consultant Edward Dozier Jr., former chief of the Economics Branch for Norfolk District for 20 years who retired in 1993 after 31 years of service with the U.S. Army Corps of Engineers' Planning Division.

At the first workshop, district representatives explained the project and asked port users to compile a prioritized list of problems, needs, concerns and opportunities. Dozier is also conducting in-depth phone interviews.

The greatest response has been a request for deeper channels.

The Navigation Management Plan will provide a vehicle for spanning jurisdictions and disciplines to allow earlier identification of and response to issues. For example, since the plan will encompass the entire Hampton Roads port, the Corps could get a permit to dredge the whole channel, instead of having to apply for a permit for each section of the channel.

After the lists are compiled, team members will hold a second workshop in June to present the final list for the port users' approval. The team will then brainstorm potential solutions to the problems and prepare the long-range plan. The plan is scheduled to be completed and distributed to the port users in early 2000. In order to keep the plan viable, it will be updated periodically.

Lochen said, "Simply stated, the Virginia Port Authority can use this to take to the Virginia General Assembly with the message -- 'This is not just us speaking. This is 400 users coming together with one voice to tell you what's needed.' Because it is a consensus, it gives the plan much more impact."

Added Dozier, "They do not have enough money for all that needs to be done for the port. There's only so much money to go around. This will help the General Assembly determine where the priorities lie."

Lochen said that on the federal government side, the U.S. Army Corps of Engineers can use the document to support congressional funding requests for port projects.

"This plan is coming at the perfect time," said Lochen. "We're going to have bigger ships coming into the port, and we need deeper water. We'll lose out to other ports if we don't dredge."

(Thomas Lochen and Edward Dozier Jr. also contributed to this article.)

Quality

Continued from page 4

"The first dorm is one long building, but the configuration of the newer dorms is T-shaped," said Caffee. "The T-shape makes it very flexible in how we line up the structures. We found it's a lot more flexible than the first straight-line design. We've also added a circular entrance and staircase in the most recent design. There will be a lounge area with chairs and telephones in the lobby, and a garden planter in the center circle. The entrance will also have a wall dedicated to an honored individual the base chooses."

Other features include a billiard room in the basement, a washer and dryer area, dayrooms, individual storage areas, handicapped toilets, and a custodial area. The outside complex includes a pond, a barbecue hut, and a basketball court.

"I think this is an award-winning dorm and I'm really proud of the new design," said Caffee. "The first design is a good one, but the new ones are even better, and Mehdi Pour, Europe District Project Manager, had a lot to do with that. You can see the difference between the two designs, and a lot of that influence was his."

"The first dorm was a simple approach," said Pour. "We used the Air Force Facility Design Guide criteria and expanded from there. It took time to come up with the basic modules, but once we had the basics, it was easy. This became such a workable layout, Headquarters USAFE is using it for other dorms in Europe. The first dorm influenced how we designed the others. We became more flexible when we used the T-shape design. We were able to add a more innovative staircase and a sitting area in the lobby, which was something the customer wanted."

During the concept and design, Pour and Caffee worked closely with the architect-engineering firm and the Staatsbaumt Trier which led to the design. "The dorms in both Spangdahlem and Ramstein have created a closer working relationship between the Corps and the Air Force," said Pour. "This proves that using a good standard design can enhance in-house cost savings under Europe District's Life Cycle Project Management."

Construction began on the first dorm in November 1996. The builders worked through the winter to keep the project on schedule.

"The designs improved as we went along," said Hans-Martin Hoock, Europe District project engineer from the Kaiserslautern Resident Office. "One interesting feature on the first dorm is the skylight above the double staircase which will bring a lot of light into the building. We also considered environmental issues. Condensation from the dryers in the washing area will be collected and led into the pond near the building. And rainwater that collects in the parking lot will also be used in the pond."

The first dorm will be complete this August. Construction on two of the other dorms began in May, and the fourth is in the final design stages.

Neighborhood revitalization

On March 5 the 6th Area Support Group (ASG) in Stuttgart unveiled U.S. Army Europe's (USAREUR) first 18 apartments modernized under the Whole Neighborhood Revitalization (WNR) program. Heika Lewis and her 6-year-old son Kevin cut the ribbon to their new home in the Keifurt and Craig Village Housing areas on Patch Barracks.

The Lewis' were the first family to move into the newly renovated apartments just a few days before the ceremony. "I really like it," said Lewis. "It has a nice kitchen with a dishwasher and I really like the extra bathroom. The second bathroom is one of the best things about the apartment, along with the washer and dryer."

Sgt. 1st Class Jack Chan also attended the ceremony. Chan and his family will also be moving into the new apartments. "This is going to be a big improvement," said Chan. "The biggest change and improvement is going to be the washer and dryer in the apartment. And of course the extra bathroom."

The WNR project involves converting existing two-bedroom units into three-and four-bedroom apartments, while totally modernizing the buildings, utilities, streets, sidewalks, playgrounds, and other neighborhood amenities. Besides increasing the number of apartments, the program involves modernized kitchens and baths, laundry facilities in each apartment, and upgrades to the infrastructures.

The Europe District team which worked on the project included project managers Brian Dziekonski and Thomas Poole, area engineer Ralph Lowe, and Stuttgart project engineer Herman Celosse. The Staatsbaumt of Stuttgart, the architectural/engineering firm Klein-Breucha, and the contracting firm Wolff & Mueller also worked on the project.

The WNR project in Stuttgart marks the start of USAREUR's Capital Investment Strategy to modernize family housing inventory to WNR standards. Similar projects are also underway on housing areas in the 104th ASG in Hanau and Baumholder.

Artist reaches out to special needs kids

Article and Photo
By Joyce Tsai
New Orleans District

It was an extraordinary afternoon for Nancy Mayberry. As one of Lincoln Elementary's guest artists for Very Special Arts Week, she took time off to get down-and-dirty with some very special students, showing them the ins and outs of papier-mache.

Thanks to Mayberry, pre-kindergarten, kindergarten, special need and first grade students got to don artist smocks and dip their hands in the papier-mache -- glue paste and newspaper strips. The result is a three-foot tall sculpture of the school's mascot, the Lincoln Lion, which will guard the school's main entrance in Gretna, La.

Very Special Arts Week is a nationwide celebration of the arts in public schools. Every year, area artists are hired or volunteer to share their talents and joy of art. Mayberry, who works in the Reprographics Section of New Orleans District, holds a Bachelor of Arts degree in Fine Arts from the University of New Orleans. She also has teacher certification from Loyola University in New Orleans, and has seven-plus years of experience in art education. She was first asked to participate 10 years ago. Since then, she has volunteered her time and talents every year to unleash the little artists within.

Mayberry said the arts provide a means of reaching special-needs children, to teach and enrich the basic curriculum of reading, writing, and arithmetic.

Under her guidance and care, 89 kids throughout the school took turns diving right into the artistic process by dipping their hands in buckets of "gooey slime," as one kid called it.

For most of us, dunking our hands in a pail of slimy, sticky glue may not be the most pleasurable experience, but for many of these students it's a challenge to be overcome and an accomplishment when mastered, particularly for the school's autistic students. Mayberry said these students are her favorite to work with, and they are one of the primary reasons she volunteers every year.

"Some of the kids are nervous," Mayberry said. "With the autistic kids you have to be careful because you don't know how they'll react."

Mayberry said many of the children are tactile defensive -- they don't like to touch things and exhibit varied reactions to new activities. Some are terrified. They don't want that stuff all over their hands and they start screaming or crying. Some think the gooey stuff is the best in the world. Some seem totally indifferent.

"Many of the children require hand-over-hand assistance," Mayberry said. "Without that one-on-one assistance many children would be unable to participate."

Like any great teacher, Mayberry makes the kids' jobs as artists look easy. But that's because her dedication and preparation go into every project before to on-site creation. For instance, this year's papier-mache lion project was the result of hours of preliminary sketches, molding the lion's wire mesh frame, cutting thousands of newspaper strips, and mixing glue paste, all before the children ever got involved. Mayberry also painted the sculpture afterwards.

In a previous year, she cut the materials for and assembled 30 small birdhouses to be sure they fit properly. She then disassembled all 30, so that all her special need students could build, paint and take home their very own birdhouse.

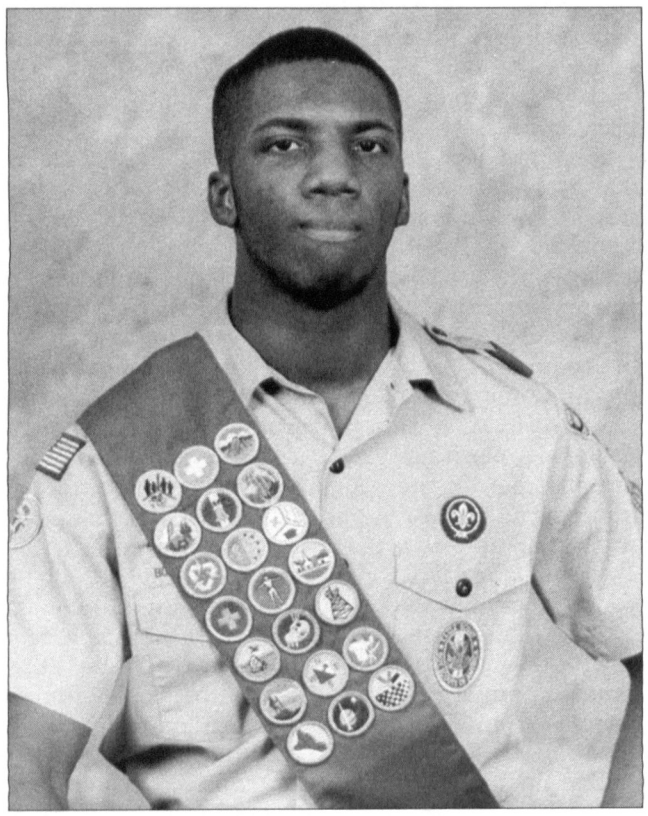
In 1993, in what she considers her biggest coup yet, she arranged for an Army Reserve helicopter to land on the school playground. More than 800 students took turns climbing, sitting in, and learning about helicopters from the pilots. That year's theme was "Up, Up and Away."

Nancy Mayberry shows Travin Daniel how to pat glue and newspaper strips onto the framework for the Lincoln Lion.

Mayberry said she chose the papier-mache project for this year's theme "The Paper Trail," because she hoped it would be an activity in which all students (special needs or not) would be able to participate.

The Lincoln Lion sits atop a pedestal that lists the names of all the students who participated in the art project. "It will represent the bringing together of students at our school," said Lincoln's principal, Myrtis Tate. "It represents what we are capable of accomplishing when we all work together."

Hard work, dedication lead to Eagle rank



A sash full of merit badges shows the hard work John Barlow Jr. put into becoming an Eagle Scout.

Article by Laschandra Gavin-Brooks
Photo by Larry Donald
Memphis District

A Memphis District employee now shares something special with astronaut Neil Armstrong, Secretary of the Army Togo West, and movie producer Steven Spielberg. John Barlow Jr., a student aide working in Map Sales, joined these men when he recently became an Eagle Scout, the Boy Scouts of America's highest youth rank.

Barlow, who has spent 11 of his 18 years in scouting said, "I've always wanted to earn Eagle Scout because I knew it was something I could do if I worked hard."

His accomplishment flies in the face of recent scouting statistics showing that only 2.5 percent of the nation's 4.5 million scouts make it to the top of the program, and that only one percent of Black scouts ever earn the Eagle badge.

To become an Eagle Scout, candidates must earn a minimum of 21 merit badges, 14 which are mandatory, including mandatory subjects like environmental science and personal financial management. Candidates must also develop and carry out an Eagle project that benefits their community or an organization in the community.

Barlow, a senior at East High School in Memphis, Tenn., designed a project to refurbish the grounds at Oakshire Elementary School, also in Memphis. Barlow and his fellow troop members spent Saturdays painting, removing debris, and pouring concrete. "It was hard work, but it was worth it to know we made a difference," Barlow said.

Besides the community service project and the 21 merit badges, each Eagle candidate must demonstrate the ability to lead patrols and perform all the necessities of outdoor life, including fire-building and setting up camp. "The Boy Scouts have expanded my horizons, improved my discipline, and kept me focused," said Barlow.

Scouting is not the only thing the 18-year-old is focused on. He works in the Map Sales office every day, participates in several extracurricular activities, and maintains a 3.7 grade point average.

"My thoughts are on my future," said Barlow. He plans to pursue engineering studies at the University of Memphis this fall and, just as he moved up the ladder in scouting, he hopes to progress in the U.S. Army Corps of Engineers from student aide to co-op student, to finally becoming an engineer.

"Like the Boy Scouts, the Corps has opened tremendous doors for me," he said. District river forecaster Berland Boyd served as the keynote speaker for Barlow's Eagle Scout Court of Honor ceremony.

"Becoming an Eagle can be an important step in developing the leadership ability, life skills and ambition that can keep a young man off the streets, help him land a job, or get him accepted to a good university," said Boyd. "I believe John Barlow Jr., is destined for great things, just like many of the Eagle Scouts before him."

'Just like a grocery store back home'

By Maureen Woodward
Japan Engineer District

"I like the look and feel of this store."

"It's just like a grocery store back home."

"With the new shelving, they've added more products to choose from."

That's what customers are saying about Defense Commissary Agency (DeCA) facilities throughout Japan. Commissary renovation projects are improving the quality of life for service members and their families stationed here with new lighting, new shelving, new refrigeration cases, new floors and ceilings, new heating, air conditioning and ventilation (HVAC) systems, and new checkout counters.

"I can't wait 'til they're finished renovating the commissaries on Zama, Sagamihara, and at the depot," said Staff Sgt. Gary Sejour of the 78th Signal Battalion. "Although they're adequate, they really need to be upgraded. Sometimes the refrigeration cases break down."

Take for granted

"Everyone takes facilities like commissaries for granted until something like a freezer case fails, a product isn't stocked, or the lights go out," said Dewai Wong, program manager for DeCA projects on Okinawa. With these projects, DeCA and Japan District are attempting to prevent any avoidable problems. We want people to take the services and facilities for granted."

"The improvements we're making to the commissaries helps DeCA provide much-improved and reliable services to its patrons," said Jim Peak, deputy chief of Programs and Project Management Division. "The commissaries are especially critical to the quality of life to our people in Japan since food prices on the local economy are astronomical."

The commissary renovation projects encompass armed forces facilities from Misawa Air Base in northern Japan to four stores on bases in Okinawa -- more than 1,200 miles total. The full-scale commissary system upgrade here, which includes a central distribution center, is the result of a successful partnership between DeCA and Japan District.

Partners

In Japan, DeCA has limited engineering, construction, contracting, and administrative resources. Noting Japan's District's expertise in executing military construction and host nation programs, it made good sense to team up with the district to support DeCA's ambitious program to upgrade its facilities, according to Shaukat Ali, DeCA Far East Engineer.

"DeCA looks at Japan District as an extension of its own organization," said Andy Constantaras, PPMD deputy. "We attain complete and total customer satisfaction when our successes are DeCA's successes and when their problems are our problems. To ensure maximum flexibility for the customer, we worked with DeCA using its formats and guidance. Through joint meetings with facility staffs, as well as Mr. Ali, we developed the scope of work. This insured correct guidance and timely answers to planning questions. Plus, the meetings allowed us to provide good estimates for DeCA's forecasting costs."

Commissary regulations, policies and special requirements encompass refrigeration, HVAC, and lighting in both maintenance and sales areas. In addition, DeCA has warehouse storage guidance with specific cold storage and dehumidification requirements. The renovation projects include mandatory work for removing ozone-depleting refrigerants.

Many installations also don't have the luxury of closing the store while it is being upgraded because patrons have no place else to shop.

The renovated commissary at Kadena Air Force Base on Okinawa has the look and feel of a supermarket in the United States. (Photo courtesy of Japan Engineer district)

All of this makes for an interesting challenge when it comes to upgrading the facilities, Ali said. To speed the renovation process and ensure uniformity in design, equipment, operation and maintenance, DeCA requested proposals from design and construction agents executing work in Japan. The agency evaluated the proposals and chose Japan District as its agent.

Reputation

The selection resulted from the district's reputation for commitment to customer service, its focus on programs and project management and its specialized technical capabilities in refrigeration and HVAC systems, said Ali.

To get more bang for DeCA bucks, and to ensure uniformity of design, the district used the same architect-engineering firm on most projects. The district also grouped the projects by location; for example, Okinawa has four; Zama, three. In addition, contracts include clauses for contractor maintenance during construction and the warranty period.

Prime contractors for the projects have included such prestigious firms as Kumagai Gumi Company, Ltd., Showa Kensetsu Company, Mitsui Engineering and Shipbuilding Company, and Matsuya Sangyo Company.

The district's resident engineers also provide support throughout the construction phase. For instance, at Yokota Air Base, although faced with a tricky schedule, the construction team kept the commissary operational throughout each of many phases of construction. This minimized the impact of the renovation project to the commissary's patrons and saved the commissary thousands of dollars by avoiding the need to erect temporary facilities.

At Kadena Air Base on Okinawa, contractor, vendor, DeCA, and district personnel worked side-by-side to meet a 40-day completion deadline. Although DeCA closed the facility at Kadena, Maj. George Holzter with the Dental Activity on Okinawa said he was able to shop at a nearby installation. When the facility reopened, he liked the improvements. "The store seems larger due to the new shelving and the openness," he said.

The team also ensures safe job sites and quality workmanship.

Importance

"Everyone on the team understands the importance of what we're doing for DeCA," said Peak. "Thousands of individual customers will benefit from commissary improvements as a result of these projects, so every team member has a personal and professional interest in assuring the job is done right! A great deal of selfless service and professional pride has gone into insuring schedules are met and that we provide the highest quality design and construction."

Through close coordination and communication, they track project progress for on-schedule and within budget completion. Japan District also calls in technical expertise from Pacific Ocean Division (POD) whenever necessary. In fact, for the DeCA projects, POD reviewed architect-engineer designs and plans to ensure that they met all DeCA's requirements.

For the upgrade of the Central Distribution Center at Sagami General Depot (SGD) and the commissaries at Yokota, Sagamihara, Misawa, SGD and Zama, the POD team improved air conditioning, refrigeration and plumbing specifications, and required the architect engineers to correct the contract specifications and analysis.

In 1994, the whole DeCA design and construction program in Japan amounted to a few hundred thousand dollars for two or three projects. Through the aggressive partnership between the agency and Japan District, the program has expanded to more than $32 million on thirteen installations. But the real winners from that partnership are the American soldiers, sailors, Marines, airmen, and their families stationed in Japan.

Wheeler lends a hand, dredges ammo port

Article and Photo
By Lira B. Frye

Wilmington District was in a bind.

The Military Ocean Terminal at Sunny Point, N.C., the largest ammunition port in the nation, and the Army's primary east coast deep-water port, desperately needed dredging. But the U.S. Army Corps of Engineers' east coast dredge, Philadelphia District's *McFarland,* which usually maintains the channel, was undergoing shipyard repairs.

"The law says if the *McFarland* isn't available we have to find a private contract dredge," said Jim Butler, Wilmington District's Operations Division chief. But all available contract dredges were working, so Wilmington turned to headquarters for help.

Relief came when headquarters brought New Orleans District's dredge *Wheeler* out of ready reserve. It arrived at the Cape Fear River January 10.

"It was the last dredge we expected see because it was in ready-reserve status," Butler said. "But it was the best solution."

Time was short. The Sunny Point Army Depot had scheduled a deep-draft ship to arrive in mid-March. That left only two months for the *Wheeler* to dredge and dispose of 2.3 million cubic yards of sand, silt and clay. But the *Wheeler* and her crew were up for the challenge.

"Seamen sail on ships to be out at sea, not to sit at the docks," said the *Wheeler's* captain, Paul Rhea. "This was a great opportunity to work in an area we've never worked, and to show what we're capable of doing."

The *Wheeler* operated 24 hours a day, dredging the Cape Fear River and the depot at a rate up to three times faster than the *McFarland,* a much smaller dredge. The goal was a 38-feet project depth.

"It was critical to get this project down to depth and make it accessible for the scheduled incoming deep-water vessel," Rhea said. "We were dredging very close to the side dock, which required a lot of skill. We gave them our best."

The *Wheeler* crew's best impressed both the Army and the Wilmington District.

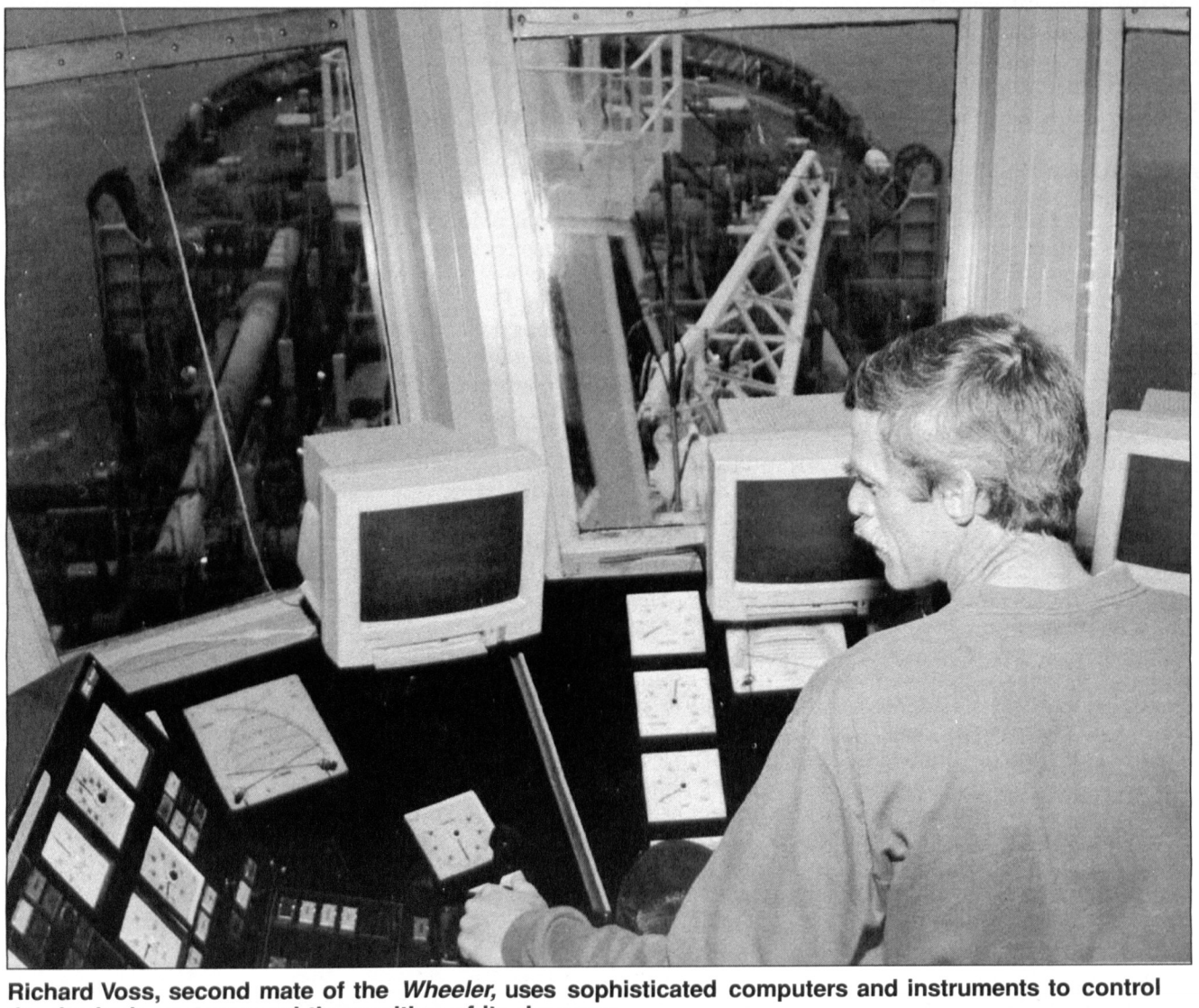
"Once the Army saw the *Wheeler,* it didn't take but a day or two to convince everyone they got a good deal," Butler said. "This was a pass/fail mission and everyone was impressed with the *Wheeler* and the crew's performance."

Sunny Point Deputy Commander Lt. Col. Tom Blue said, "If we didn't have the dredging, we wouldn't get the ships in. The *Wheeler* and its crew did a great job. They were willing to work with us and to come up with solutions to our problems."

"We don't often get a chance to work for the military, and the timing was perfect for us," Rhea said.

The *Wheeler* finished dredging in North Carolina March 10, meeting its goal and making the channel and berth areas ready for the deep-draft ship.

Demand continues for the *Wheeler's* expertise. After returning to New Orleans, the ship and its crew were called on once again. They set out April 1 on an urgent request to dredge Cubits Gap. A private contract dredge relieved the *Wheeler* April 7. Now moored at the New Orleans District wharf, the *Wheeler* is again on ready-reserve status, prepared to get underway within 72 hours in response to any national dredging request.



Richard Voss, second mate of the *Wheeler,* uses sophisticated computers and instruments to control the dredge's systems and the position of its drag-arm.

Open-end contract is a big success

By Nancy Gould
Savannah District

Savannah District's newest contracting tool, the Indefinite Delivery/Indefinite Quantity (IDIQ) Operation and Maintenance (O&M) Construction Contract, has been a big success since it was first implemented in 1997 at Fort Bragg, N.C. The contract allows repairs, maintenance, rehabilitation, and minor construction to be done on an installation in a short time.

The IDIQ is an innovative, open-ended contract which is especially useful for military installations, which have many small jobs that crop up constantly. The IDIQ is issued to a contractor with a proven track record. It is good for a certain period of time, and a maximum dollar amount is set, but the work is unspecified. When a small but vital task crops up, the contractor can respond to get it done quickly.

Tom Clarke, senior project manager for the O&M team, set up the contracting tool in the district after he and a small group of team members, including a representative from Fort Bragg, visited the U.S. Army Corps of Engineers Reinvention Center and Fort Worth District to learn more about the new contracting tool. The two agencies have successfully used the IDIQ contract for more than two years. Fort Bragg was Savannah District's first customer to use it; Fort Gordon, Ga., was the second.

Workload requirements at Fort Bragg created the demand for contractual support. The IDIQ contract offered them not only additional support, but a contract that would provide the flexibility and responsiveness they needed to get facility construction work done quickly.

Lt. Col. John O'Dowd, special assistant to the Deputy Commanding General of the 18th Airborne Corps, said the $13.5 million contract allowed his command "to get exactly what we asked for, on time, and at the quoted price. We used it at Faith Barracks when we had a problem with the hot water and needed repairs in a hurry. We had the system repaired in about six days instead of the usual two to three weeks. There's nothing we had in all the tools of contracting that could fix the problem that quickly."

According to Jane Lanier, the contracting officer, the government establishes the contract with an anticipated maximum and guaranteed minimum amount of work to be performed in a specific period of time. Then work, ordered as task orders, is requested as needed.

IDIQ contracts are generally set up for a one-year period, but the contract has two, 12-month option periods to extend if necessary. Both the base period and the option periods have maximum dollar amounts designated that cannot be exceeded. But if the designated amount is approached before the end of a period, the option can be exercised for continuity of service.

"The contract works as an umbrella," said Lanier. "It allows an unlimited number of tasks, not to exceed the maximum dollar amount per ordering period," With the IDIQ contract, a detailed scope of work is not required. Contractors are chosen based on past performance and their ability to manage, instead of the lowest bidder. The cost of the work is a consideration, not the determining factor.

"After the contract is in place, we can scope the work, prepare the government estimate, get a proposal, and negotiate and award a task order whenever necessary," said Lanier. "That's the beauty of the whole thing, being able to have that contract in place to use when you need it."

Fishing village gets dredging 'miracle'

By Christina Plunkett
Jacksonville District

Some residents of Horseshoe Cove say they've been touched by angels. The miracle is that the people of this tiny fishing village got their channel back, and kept their livelihood intact, quicker than anyone thought possible.

And it all rode in on the back of the Storm of the Century.

Horseshoe Cove, north of Tampa, is a salt-in-your-veins fishing community with homes elevated on pilings, a few homestyle restaurants, and a marina run by the town clerk. But for the past several years, it's been difficult for these folks to do what they do best.

Since the late 1980s, the Cove's only channel has been so shoaled-in that the fishermen couldn't return home with a loaded boat. Their catch had to be unloaded at a different port which, besides being a nuisance, took their processing trade away from the Cove.

Dredging the Cove's main channel would alleviate the problem, but getting federal money for the work is not simple. Although the Cove's entrance channel was authorized and built as a federal project, it was last maintained in 1966. For the Cove's needs to be met, it would have to rank high enough to receive federal dollars, and a sponsor would have to provide a disposal area that met federal requirements.

But getting federal support would be difficult because this tiny town is not a high commercial area. "When work is prioritized, the projects that are implemented are the ones that will have the most impact on the most jobs," said Pat Hanson, project manager.

Jacksonville District employees watch dredged material flow into the 40-acre disposal area in Horseshoe Cove. (Photo courtesy of Jacksonville District)

Then the Storm of the Century changed the equation. When it hit the area in on March 13, 1993, there was a silver lining in those clouds. Winds deposited a lot more sediment, aggravating the shoaled entrance channel and blocking many of Dixie County's upland canals with silt.

Congresswoman Karen Thurmond seized the opportunity to tap the Federal Emergency Management Agency (FEMA) for funds to dredge and lease land to build a disposal area. This, along with money she had already provided for federal channel maintenance, was the beginning of the Cove's million-dollar channel navigation project.

Cove townspeople celebrated receiving FEMA funds with a community fish-fry. Soon after, they found a sponsor -- the Suwanee River Water Management District (SRWMD), and work began to pick an engineering consultant to design and oversee building a 40-acre diked upland disposal area about a mile from the dredge site.

Then the channel was surveyed, while Hanson coordinated plans and specifications for the dredging operation. Next came finding a contractor, and Horseshoe Cove got lucky again.

Acquiring a contract takes three to six months, whether it's a firm that bids for the job, or a small or disadvantaged business selected under the Small Business Administration's Section 8(a) Program. This would impact the fishermen's ability to work, and leasing the disposal area would become more expensive as the days went by.

But Debbie Nix, Deputy for Small Business, knew a disadvantaged dredging firm, Lake Michigan, that was available. "Lake Michigan has such a good reputation that some project managers will ask me to match their project with the company," Nix said.

Another advantage to using Lake Michigan was saving time. Since they had already worked for the government, they didn't have to be audited, shaving several months off the process. Skillful handling of the contract by the district's negotiating team helped get the contract awarded even faster.

Soon the humming and clanging of dredging became a welcome addition to the life of Horseshoe Cove as the dredge pumped silt and opened the channel. The 16-man Lake Michigan crew worked 'round-the-clock, seven days a week, to complete the job.

And while they worked, Cove residents watched their progress. People watched from the marina; shrimpers and crabbers checked the progress as they set out each evening. Even a ladies walking group formed to walk the dikes around the disposal lake.

In about a month, the residents of Horseshoe Cove celebrated opening the channel. The project had its challenges. The dredgers fought low tides and limestone ledges to remove more than 70,000 cubic yards of silt from the channel. The main channel was dug six feet down and 75 feet wide.

"Completing this project was a great day for Horseshoe," said Andy Cummings, project engineer from the Gulf Coast Area Office, who was quality inspector for the project. "Now the shrimpers, who've worked all night, won't have to wait until high tide, sometimes as late as noon, to come home."

"It helps to remember that everything we do, we are doing for people," said Hanson. "All our projects affect the lives and livelihood of others."

Saudis receive patrol boat training facility

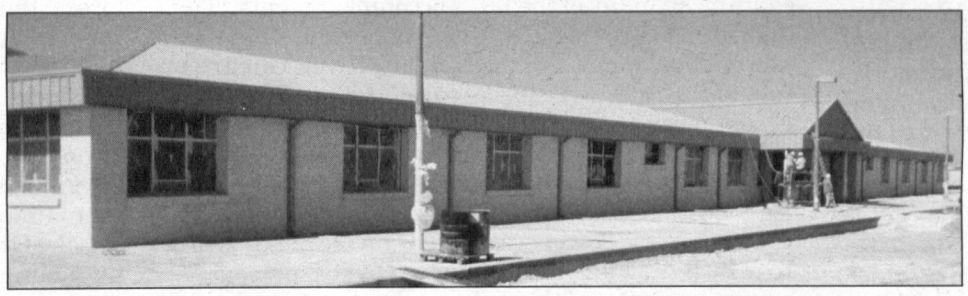
By Joan F. Kibler
Transatlantic Programs Center

A facility to train Saudi Arabian nationals to operate fast patrol boats is now being used after a recent dedication at the Royal Saudi Marine School Base at Ras Al Ghar, near Jubail, Saudi Arabia.

"Like their U.S. counterparts, the Saudi navy and marines are continuously upgrading their base facilities to better accommodate their operations," said Rashid Attar, who recently returned to the Transatlantic Programs Center after serving as project engineer in the Saudi East office.

The 4,800 square meter training facility (with a capacity to train up to 400 students at a time) has 10 English-language training laboratories, eight general purpose classrooms, 13 specialty classrooms, and administrative offices for the staff and school commandant. The school also has a resource learning library and a computer learning center.

Ceasar Santucci, Transatlantic Programs Center's project manager, said that Saudi Arabia has acquired several



In this facility, Saudi sailors and marines will learn how to handle fast patrol boats. (Photo courtesy of Transatlantic Programs Center)

fast patrol boats for its navy. "Naturally, part of fielding this type of craft is training Saudi Arabian nationals to proficiently operate it," he said. "While the customer initially will use the school for the fast patrol craft training, we deliberately designed it to be flexible to meet other training needs."

Santucci said that the language training is necessary because many of the navy's training and cross-training drills and exercises use the English language. "Saudi Arabian military members will leave this learning environment with better language and computer skills," he said. "Their total training program will use a mixture of Saudi Arabian instructors, U.S. Marine Corps advisors, and contract personnel."

The facility was built under a $4.3 million contract awarded in February 1996 to Al-Youseif Establishment, a Saudi Arabian firm. Certain changes were required, including redesigning the fire protection system to install fire walls and performing additional foundation work due to the high water table. Force protection issues impacted progress early because of changing host nation procedures for clearing workers for access to Saudi Arabian installations, Attar said.

During construction, two engineers from the Royal Saudi Navy Facilities Command worked side-by-side with Corps members to provide liaison on customer needs and host nation construction requirements.

Capt. Engineer Mohammed Al Kuliabi, the liaison officer, said the experience of working with the Corps has been beneficial. "I'm able to see the problems that must be solved and how the Corps procedures are used to solve them. This experience has helped me to learn more about project management, quality control, and safety."

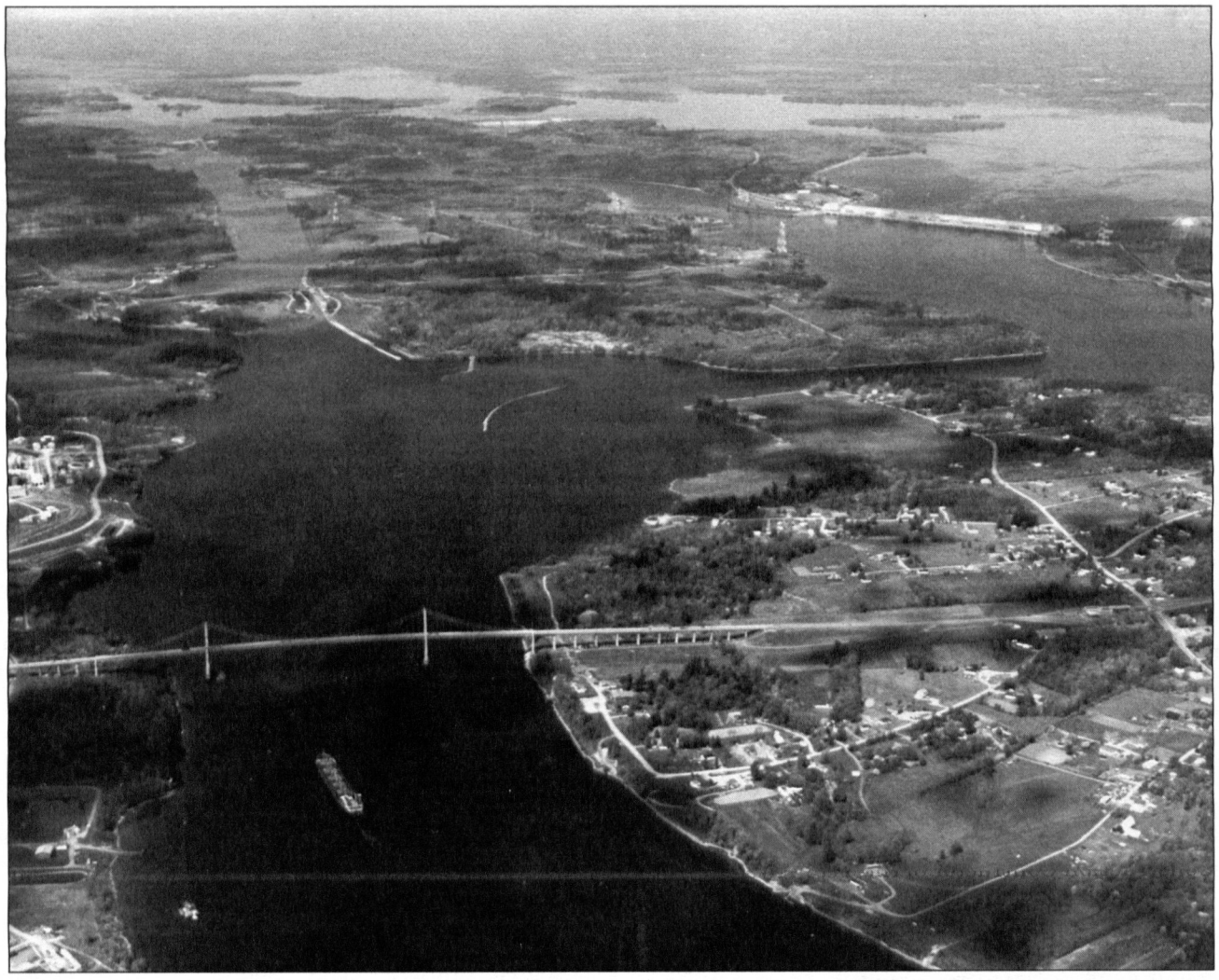
During the ceremony, Attar presented a Corps key to the base commander, Col. Fahad Abdulla Al Ghouari, which was immediately hung on the wall of the school's main entrance. Also in attendance was the Eastern Fleet Commander, Rear Admiral Abdullah Al Wable, and six commodores from both the Eastern and Western Fleets.

According to Attar, Al Ghouari indicated that the school will also become the headquarters for the base. "He was very pleased with the quality of the design and construction and praised the Corps for its efforts," Attar said.

Lake Ontario

Conflicting interests complicate regulation of lake, seaway

Article by Nancy J. Sticht
Photo by Kenneth Winters
Buffalo District



An aerial photo of the St. Lawrence Seaway shows some of the many interests which complicate water level regulation in the area. Eisenhower Lock is at the upper left; Snell Lock lies below that. Long Sault Dam is at center, and the Moses-Saunders Powerhouse is at center right. Canada is at the right of the photo.

It is a dilemma that would perplex King Solomon. Lake Ontario, one of only two Great Lakes (along with Lake Superior) whose water levels are regulated, is the focus of conflicting interests of riparians, recreational boaters, environmentalists, commercial navigation, and hydropower.

Riparians (lakeshore homeowners) believe the Corps has maintained high water in the lake, resulting in loss of land. So they want lower lake levels and more beach. Recreational boaters want a moderate water level for a longer duration, from April to October, to allow access to docks and boats. Commercial navigation and hydropower generation is best served by somewhat higher levels, particularly around the Long Sault Dam near Massena and the Port of Montreal. Navigation and hydropower generation may also be adversely affected if the flow is too great. Environmentalists are divided as to whether high, low or stable lake levels are beneficial. Fish and wildlife tend to live in wetlands, which are vital to the ecology of the Great Lakes. Fluctuations in lake levels also encourage and support a wide diversity of plant and animal life.

Changes in the seasons also present challenges. When ice is forming in early winter, there is need to reduce the flow to avoid ice jams. This accelerates ice formation, after which more water can be released. The shipping season normally occurs between April 1 and December 27, requiring an adequate elevation for commercial vessels near Long Sault Dam. Spring runoff, precipitation, and evaporation cannot be controlled or even predicted. Mild winters and favorable ice conditions allow high flows and require close monitoring.

Buffalo District's role in regulating Lake Ontario dates back to the early 1900s and has offered a unique opportunity for the U.S. Army Corps of Engineers to partner with international experts and authorities to balance all concerns and satisfy our customers.

The U.S. and Canada signed the Boundary Waters Treaty of 1909, which later established the International Joint Commission (IJC) in 1912 to oversee issues concerning boundary and transboundary waters shared by the two countries, including the Great Lakes. There are six appointed commissioners, three from each country. Appointment to the three U.S. seats on the IJC is made by the President.

The IJC has formed numerous boards to help guide them. Among these boards is the International St. Lawrence River Board of Control (SLRBOC), which regulates the Lake Ontario-St. Lawrence River system. Brig. Gen. Hans A. Van Winkle, Great Lakes and Ohio River Division commander, is the U.S. Chairman on this board. Lt. Col. Michael J. Conrad Jr., Buffalo District commander, is the U.S. Regulation Representative responsible for carrying out the SLRBOC's instructions. Conrad also serves as ex-officio U. S. Chairman of that board's Working Committee and also of the International Niagara Board of Control.

Board membership is determined by professional abilities and expertise rather than agency representation, and members are charged with making impartial assessments. "Buffalo District was chosen by the commission to assist with studies to investigate shoreline changes and structures in the Niagara River, and to develop more responsive regulation models to address the complex issues and conflicting interests within the Lake Ontario basin and the St. Lawrence River," said Dr. Anthony J. Eberhardt, Chief of the Water Control Center in the district's Lower Great Lakes Hydraulic and Hydrologic Engineering Branch.

Since 1912, Buffalo District has played a significant role in many of the IJC's accomplishments. The district has provided technical expertise on hydropower development in the Niagara River, construction of the St. Lawrence Seaway and the Snell and Eisenhower Locks, the dewatering of the American side of Niagara Falls, Great Lakes Levels Studies, and monitoring Lake Erie water temperatures and ice conditions to determine the appropriate time for the New York Power Authority and Ontario Hydro to install the Lake Erie-Niagara River Ice Boom. A primary mission of the district's Lower Great Lakes Hydraulic and Hydrologic Engineering Branch and Water Control Center has been determining the weekly outflow from Lake Ontario to the St. Lawrence River.

The Lake Ontario Regulation Plan was developed in 1958, based on data collected 1860-1954 and using the International Great Lakes Datum (IGLD) - 1955 conditions. The plan was modified three more times until October 1963, when Regulation Plan 1958-D began. In late 1992, Regulation Plan 1958-D was updated to the IGLD-1985 conditions to account for the natural movement of the Earth's crust beneath the lake. One of the main objectives of Plan 1958-D is to regulate the lake within a four-foot range, between 243.28 and 247.28 feet.

Buffalo District hydraulic engineers perform a number of calculations regarding outflow and relay coordinated information and data to the Operations Advisory Group (OAG) every Thursday during a conference call or meeting. Factors taken into consideration include downstream levels, outflows and ice. The district also coordinates a monthly forecast of levels, given various supply scenarios. Based on these forecasts, strategies are developed, coordinated, and implemented with the approval of the SLRBOC and IJC.

During 1985-1986, all the Great Lakes except Lake Ontario experienced record high levels. After this period, two more interests -- recreational boaters and environmentalists -- found their voice in Lake Ontario regulation. The controversies continue today.

Lake Ontario has been high this year, but the computed unregulated level would be almost 46 inches above the long-term average. "So far we've done a good job providing substantial benefit to all interests," said Eberhardt. "Even though there has been flooding, it would have been worse and the levels would have been higher without regulation."

The IJC frequently calls on the district to address Lake Ontario issues at public forums for the IJC and SLRBOC. Based on their extensive experience with the diverse customer base in the Lake Ontario area, district engineers have proposed innovative techniques to better serve all interests. Feedback from public meetings has been positive on the district's willingness to listen and provide information and assistance.

"If all we were concerned about was Lake Ontario residents, we could regulate the lake with little problem," said Paul M. Yu, hydraulic engineer. "But we also need to be concerned with the downstream end at Montreal and how regulation will affect them. We must balance all concerns, and we are especially constrained by the possible flooding in Montreal."

Around the Corps

General officer news

Brig. Gen.(P) Robert VanAntwerp, commander of South Atlantic Division, has been selected for the rank of major general.

Col.(P) Peter T. Madsen, executive officer to the Chief of Engineers, has been selected for brigadier general.

SES reassignments

Steve Stockton, Chief of Engineering in the Directorate of Civil Works in HQUSACE, is being reassigned as the Director of Engineering and Technical Services (DETS) in South Pacific Division (SPD), date to be determined.

Carl Enson, DETS in SPD, is being reassigned as the Chief of Engineering Division in the Directorate of Civil Works in HQUSACE, date to be determined.

In addition, Les Edelman, Chief Counsel at HQUSACE, Ed Watling, Director of the U.S. Army Corps of Engineers' Center for Public Works, and Charlie Cheung, Chief of Engineering Division in the Directorate of Military Programs at HQUSACE have all announced their retirements. The dates are tentatively scheduled for this summer.

Contractor of the Year

Durocher Dock & Dredge, Inc. of Sheboygan, Michigan has been named Contractor of the Year for their work at Erie Harbor, Pa. Durocher was nominated by Buffalo District and selected by Great Lakes and Ohio River Division to receive the Chief of Engineers Construction Contractor of the Year Award. Work consisted of rock excavation for an access channel and construction of a permanent berthing area for the historic early 19th century sailing vessel, the brig *Niagara.* The vessel is a restored replica of Commodore Oliver Hazard Perry's flagship in the Battle of Lake Erie against the British on September 10, 1813.

Durocher Dock & Dredge has performed several projects for Buffalo District, most of which carried a three to five million dollar price tag. This project cost about $3.4 million. Their largest job for the district was a $20 million contract to build 55 offshore breakwaters five years ago at Erie, Penn.

A plume of water sprays into the air during an explosive test on a backwater of the Mississippi River. (Photo courtesy of St. Louis District)

Explosive effects manual

Two St. Louis District men, Tom Keevin, an ecologist, and Greg Hempen, geophysical engineer, teamed up during the demolition of Lock and Dam 26 on the Mississippi River to study the environmental effects of underwater demolition and how to reduce the harm.

Recently they wrote a manual, "The Environmental Effects of Underwater Explosions with Methods to Mitigate Impacts." It summarizes available literature on the environmental effects of underwater explosions and provides information on reducing the impact on biological systems and species. The manual was prepared for military environmental planners, resource managers, and facility managers, but would also be useful to Corps environmental staffs. The manual is being provided to Corps libraries.

For more information call Tom Keevin (314) 331-8462, or e-mail keevin@smtp.mvs.usace.army.mil.

Indoor air quality program

The health and safety of people in the workplace is affected by many factors, but one of the most significant is indoor air quality. The U.S. Army Engineering and Support Center, Huntsville has developed an Indoor Air Quality Program to assist Corps' districts, or to do work outside their capabilities. "We have an experienced team that includes mechanical engineers, safety engineers, industrial hygienists, project managers, and contracting specialists," said Alicia Allen, program manager.

"The potential need for this program is great," said Randy Miller, senior mechanical engineer. "Driving forces such as professional standards, and the increasing emphasis on the health and productivity of the workforce, and the potential for litigation, make indoor air quality an issue for the '90s."

NWSC president

Lu Christie, Southwestern Division Public Affairs Officer, was selected as the President of the National Water Safety Congress (NWSC), during the International Boating and Water Safety Summit in Hollywood, Fla., May 1-8. Christie also received the prestigious NWSC President's Award to recognize her contributions while serving as the NWSC's Executive Vice President.

The NWSC promotes water safety throughout the nation. It helps establish Water Safety Councils, develops and publishes water safety materials, promotes legislation and encourages reciprocity of boating laws among the states. NWSC provides training and education seminars and awards those who have made contributions in water safety education, or in preventing accidents or loss of life on the nation's waters.

Reluctant hero

Edward Gustek, Jr., a civil engineer in New York District, was a victim and a hero in the March 11 crash that claimed six lives on Interstate 190. On the way home, a tractor-trailer in front of him veered into the center lane to avoid a minor accident, and Gustek stopped his car to avoid hitting them himself.

Behind him, a tractor-trailer crashed into a line of vehicles which had slowed for the accident. Flames erupted and Gustek left his car to see if he could help. Seeing an injured woman limping away from the accident, he helped her to a safe area. The woman was Leslie West of West Seneca, N.Y.

In a front-page article in the *Buffalo News,* West described a man in a blue jacket who rescued her, but Gustek plays down any heroics. "She was getting out of her car," he said. "She appeared disoriented, so I walked over, took her elbow and escorted her away from the accident. What I did doesn't seem heroic, but other people have made more of it, starting with that lady."

West's car burned soon after she got out, as did most other cars in the accident. Gustek was not hurt, but his car was damaged in the chain reaction. "I was lucky; my car just got a few dents, and it was the only one that didn't burn," said Gustek. "I feel lucky that I wasn't hurt."

Beach patrol officers observe the beach area from Norfolk District's boat, the *Harrell.* (Photo courtesy of Norfolk District)

The *real* 'Baywatch'

On April 8, six Norfolk Beach Patrol officers toured Ocean View and Willoughby Bay on the Norfolk District patrol boat *Harrell* as part of their training. They patrol eight miles of Ocean View beach and city parks on a six-month detail. The officers enforce city laws and state fishing and water laws.

The tour let the officers see the beach from the water to learn reference points when responding to distress calls. "When something happens, 911 takes care of everything and we're the first called," said Jeffrey Copperthite, officer in charge.

The officers also learned about the Corps' duties on the water. "We need to know which agency is in charge of what, such as trash and debris," said Copperthite. "We also wanted to know how we can assist the Corps and vice versa."

Beach Patrol has four men and two women who work the beach from April 1 to September 30. Qualifications include length of service, how well they work with the public, and knowledge of CPR. They work day or evening shifts with two officers per shift. Their equipment includes two all-terrain vehicles, a four-wheel-drive truck, and a Jet Ski.

Officer Donald Kennedy said the most common problems they deal with are drunks, homeless people, and people fishing without a license or possessing containers of alcohol.

Correction

Louisville District did not place the prototype buoy as reported in "New buoy designed from user needs, feedback" in the May *Engineer Update.* The buoy was placed by St. Louis District.

PAVE PAWS

The largest military construction project in the Air Force this year began April 16 at Clear Air Station, Alaska. The new system is a phased array design called PAVE PAWS. The $106.5 million project, managed by Alaska District, will replace the last mechanical radar in the nation's warning network.

The project will save $140 million by using equipment from another PAVE PAWS site in Texas. Primary contractor for the project is the Raytheon Company.

The new radar system will have an additional mission of detecting and tracking satellites. It will allow multiple, simultaneous missile warning and space tracking, reduce operations and maintenance costs by $22 million per year, and use significantly less power than the old system.

Remote control lock test a success

By Gary Jones
St. Louis District

Last year, in a darkened conference room at headquarters, Lt. Gen. Joe Ballard, Chief of Engineers, intently studied the information displayed on a computer monitor. With his staff watching on large video screens, he clicked on a computer-graphic push-button labeled "Open Lower End."

At Melvin Price Locks and Dam, just outside of St. Louis, Mo., a computer responded to his command and began checking water levels and the status of operating machinery for the 1,200-foot main lock. Satisfied that the lock was ready for a tow of 15 barges bound upriver, the computer directed a hydraulic pumping system to open the downstream miter gates. (A tow is a group of barges being pushed by a towboat.)

As the general watched the computer screen in front of him, symbols depicting the miter gates changed color and began to move. Live video images fed to the conference room from Melvin Price's closed circuit television system confirmed that the big gates were indeed slowly opening.

After assuring that the tow had tied off in the lock chamber, Ballard clicked on another graphic push-button labeled "Open Upper End." This command caused the computer to open the filling valves, wait for the chamber to fill, and then complete the lockage by opening the upstream gates.

With just two clicks of a computer mouse, Ballard had completed the lockage of a 15-barge tow more than 1,000 miles away.

The capabilities of the computerized control system at Melvin Price Locks and Dam has enabled it to become the first lock in the U.S. to test the concept of remote operation. If the results of a landmark study being prepared by St. Louis District are positive, there is considerable optimism that it won't be the last.

The demonstration was not quite as simple as it sounds and was performed under tightly controlled conditions. Because safety and operational concerns regarding remote control have yet to be addressed, onsite personnel closely monitored the operation and were prepared to immediately retake control should any problems arise.

St. Louis District has successfully deployed computerized control systems at Melvin Price and Locks 27, two Mississippi River locks that are among the busiest in the country. This year the district will begin installing computerized systems at Locks 24 and 25. The district is optimistic that computerized systems can be designed to achieve safe, cost-cutting, remote operation at low-use locks on our inland waterway system.

In keeping with that plan, the district requested and received funds this year to study remote operation at one of its own low-volume facilities, Kaskaskia Lock and Dam.

Kaskaskia study

Districts with low-volume locks like Kaskaskia face a common budgetary dilemma -- How can customer demands for 24-hour-a-day, seven-day-a-week operation be met when operating budgets continue to decline? Is there a way to further increase operating efficiency?

During the 1980s, computer technology and use in offices advanced dramatically. Office automation produced an unprecedented leap in worker efficiency. Today the challenge is to take that technology to the field and look for innovative ways to achieve operating efficiencies at our low-volume navigation projects.

In cooperation with operating personnel and representative unions, the Kaskaskia study will look into the myriad of safety, operational, technical, legal, and economic issues surrounding remote lock operation. These questions include:

- To what extent can a lock and dam be safely automated?
- Must someone always be onsite for security and safety?
- How would special conditions like fog or ice be handled?
- Will cameras provide adequate visibility under all circumstances?
- What about the special care pleasure boats sometimes require during locking?
- How will data be transmitted securely between the lock and the remote site?
- What are the lifecycle costs?

These are just some of the questions the district hopes to answer. This study will be completed this fiscal year and may have application to many of the more than 100 low-volume locks nationwide.

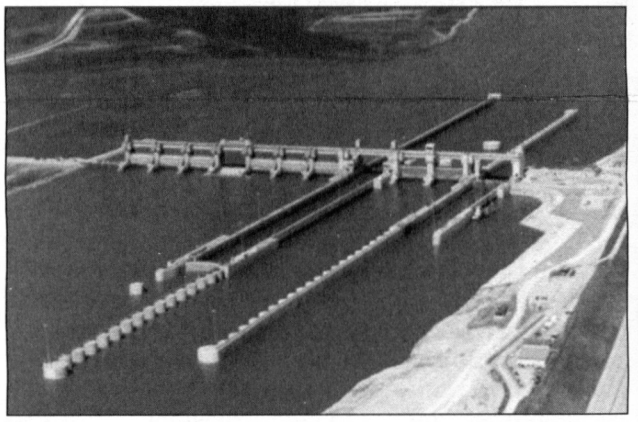
The control room of Heel Lock in the Netherlands is an example of a modern lock and dam remote control center. (Photo courtesy of St. Louis District)

European initiatives

As part of the study, a joint engineering and operations team from St. Louis District made a fast-paced visit to France, Germany, and the Netherlands to assess European initiatives in this regard. They learned that efficiency is of paramount concern on the crowded European inland waterway system. They found that Europeans are very advanced in applying computer technology to lock and dam structures and have boldly employed it to areas just now under consideration in the U.S. They have commissioned a full range of automated systems, from self-operated locks to remotely operated locks to an experimental, completely automatic lock. They see these technologies as a means to minimize operating expenses while optimizing the efficient usage of increasingly congested waterways.

The European successes are encouraging to the development of similar systems in this country. However, there are some differences between European waterway systems where remote control is operational and their American counterparts where remote control is contemplated.

In general, our tows are much larger and most operate on open rivers where navigation is more complex. To date, remote control in Europe has only been implemented on canals where tows are smaller and conditions for locking simpler. However, the Germans are preparing to remotely operate 15 locks on the Neckar River, which is larger than the Kaskaskia and carries more traffic.



Melvin Price Locks and Dam was the site of the Corps' first experiment in remote control lock operation. (Photo courtesy of St. Louis District)

Another difference between the systems is the concern for safety. Some European locks, for example, had no handrail around the lock chambers, which by our standards would constitute an unacceptably hazardous operating condition. This led the team to inquire about liability but, interestingly, few accidents were reported to have led to litigation.

Future vision

The field of computer-based industrial control systems is rapidly emerging. Through partnerships with the towing industry, it may now be possible to take an integrated systems approach to river traffic where lockage and traffic positioning could be coordinated and controlled from a central point. The Europeans are rapidly moving in this direction. But we must not overlook safety and the welfare of our personnel. The Kaskaskia study will take a comprehensive look at these issues and determine if, by our standards, remote control of locks is an idea whose time has come.